

AD-A100 447

ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/0 4/2  
19305A MLRS, MISSILE NUMBER BN-004, BN-005, BN-006, ROUND NUMBER--ETC(U)  
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**METEOROLOGICAL DATA REPORT**

19305A MILS

Missile No. DM-500, DM-505, DR-506  
Round No. Y-13740-4, Y-13740-5, Y-13740-6  
24 April 1961

BY  
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ATMOSPHERIC OBSERVATION  
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)  Meteorological data gathered for the launching of the 19305A MLRS, Missile No. BN-004, BN-005, BN-006, Round No. V-137/MD-4, V-138/MD-5, V-139/MD-6 presented in tabular form.		

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## INTRODUCTION

19305A MLRS, Missile Numbers BN-004, BN-006, Round Numbers V-137/MD-4, V-138/MD-5 and V-139/MD-6, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1211:38, 1211:42 and 1211:47 MDT, 28 April 1981. The scheduled launch times were 1200, 1200:03 and 1200:06 MDT.

## DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

## 1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ( C ), relative humidity, dew point ( C ), density ( gm/m<sup>3</sup> ), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation at: LC33 and NICK Site to 2km

#### SITE AND ALTITUDE

(2) Air structure data (rawinsonde) were collected at the following Met Sites.

## SITE AND TIME

WSD	0900 MDT
LC-37	1023 MDT
WSD	1100 MDT
*LC-37	1237 MDT

\* No data due to ground equipment failure.

Association Form  
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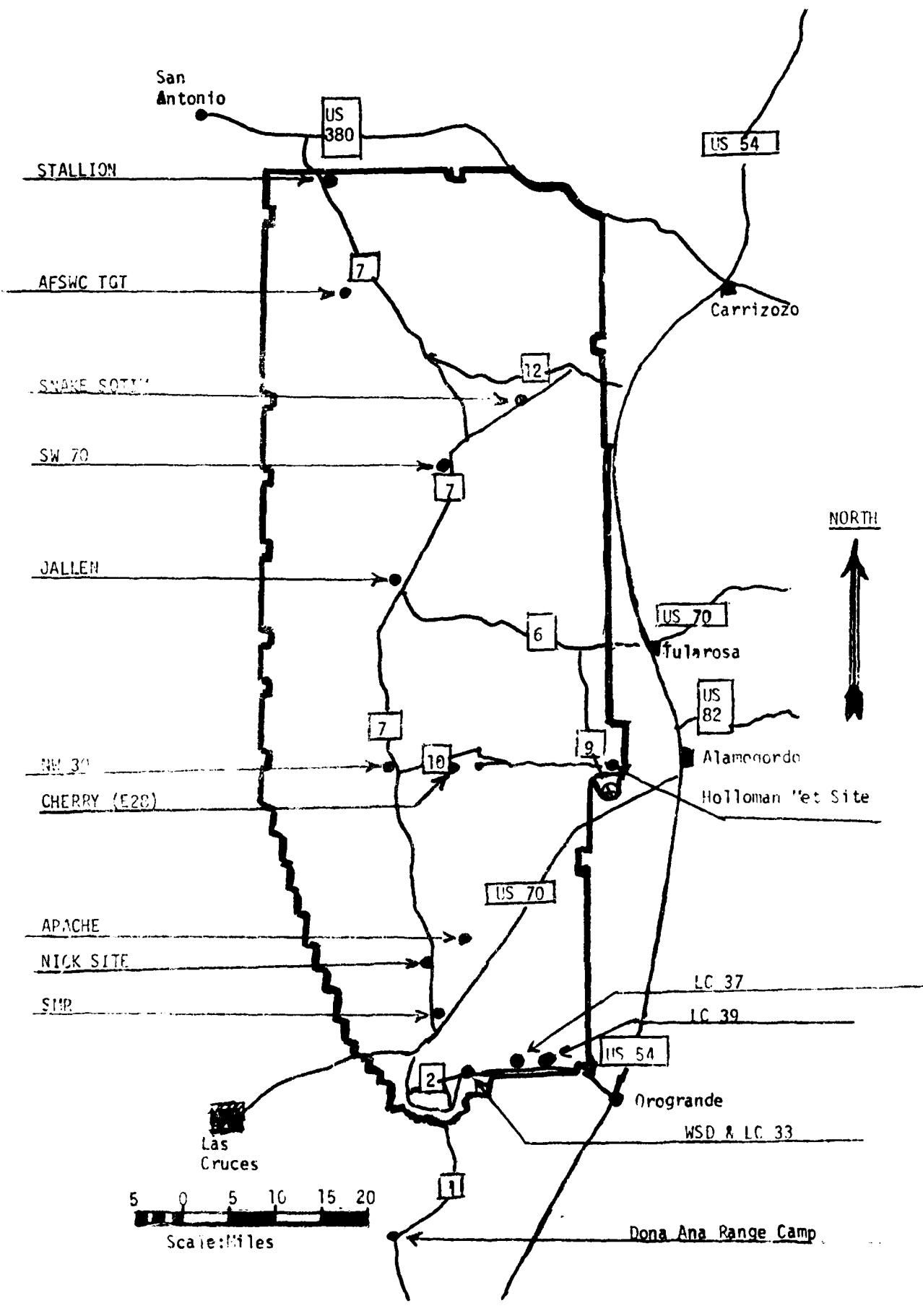


TABLE 1. Surface Observations taken at 1214 MDT,  
28 April 1981, at LC-33, 19305A MLRS,  
Missile No. BN-004, BN-005, BN-006,  
Round No. V-137/MD-4, V-138/MD-5, V-139/MD-6.

ELEVATION	3983	FT/MSL
PRESSURE	878.0	MB
TEMPERATURE	28.2	°C
RELATIVE HUMIDITY	28	%
DEW POINT	7.9	°C
DENSITY	1008	GM/M <sup>3</sup>
WIND SPEED	05	KTS
WIND DIRECTION	360	DEGREES
CLOUD COVER	0/CU/8000	AMT/TYPE/HGT

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS28 April 1981  
1214 MDT

POLE #1			POLE #2			POLE #3		
X485,874.29			X485,874.93			X485,877.29		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	017	06	T-30	017	03	T-30	020	06
T-20	011	05	T-20	022	04	T-20	011	05
T-10	013	05	T-10	013	04	T-10	013	05
T0.0	004	04	T0.0	008	03	T0.0	012	05
T+10	005	04	T+10	360	04	T+10	003	04

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIP DEG	SPEED KTS	T-TIME SEC	DIP DEG	SPEED KTS
T-30	023	06	T-30	096	03
T-20	360	05	T-20	100	02
T-10	001	05	T-10	100	02
T0.0	360	05	T0.0	100	02
T+10	355	06	T+10	100	02

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T30	MISG	MISG	T-30	157	03
T-20	"	"	T-20	176	02
T-10	"	"	T-10	166	02
T0.0	"	"	T0.0	166	03
T+10	"	"	T+10	153	04

TABLE 4

T-TIME PILOT-BALLOON MEASURED WIND DATA  
 DATE 28 April 1981

SITE: LC-33  
 TIME: 1211 MDT  
 WSTM COORDINATES:  
 X= 486,037.24  
 Y= 182,350.16  
 H= 3977.30

SITE: NICK  
 TIME: 1211 MDT  
 WSTM COORDINATES:  
 X= 470,734.56  
 Y= 255,775.64  
 H= 4126.57

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS	LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SUPFACE	360	05	SUPFACE	321	03
150	046	08	150	315	05
210	028	08	210	010	06
270	034	08	270	068	09
330	060	09	330	061	11
390	077	09	390	062	08
500	088	07	500	041	06
650	140	04	650	020	07
800	130	03	800	071	07
950	133	02	950	117	08
1150	154	03	1150	137	08
1350	141	06	1350	177	09
1550	199	03	1550	189	11
1750	177	02	1750	151	10
2000	116	09	2000	113	09

TABLE 5

**AIMING COMPUTER MET MESSAGES**  
28 April 1981

WSD 0900 MDT METCM1325065 281500122879	LC-37 1023 MDT METCM1325064 281640124877	WSD 1100 MDT METCM1325065 281700124879
00284001 29360879	00000000 29870877	00142004 29970879
01328003 29330869	01287005 29650867	01236008 29830869
02476001 29270844	02563001 29360843	02628005 29500844
03354002 29130805	03496001 29010804	03627003 29070806
04198006 28750759	04355003 28590758	03243003 28720760
05217009 28360715	05226009 28280714	05233009 28400716
06167008 28000673	06197007 27970672	06184008 28030674
07151006 27520633	07175008 27510631	07163006 27560634
08340006 27080595	08332010 27040594	08346010 27110595
09368014 26760558	09353017 26740556 10335017 26420521 11354017 26040489	09362017 26810559 10355018 26480524 11353015 26110491 12344023 25460445

STATION ALTITUDE 3,934.00' FEET  
DATE 31 AUGUST 1960.  
ACCELEROMETER

SIGNIFICANT LEVEL DATA  
1130020297  
ACUTE SENSATION

ULOCETIC COMBINATIONS  
32.40043 LAT DEG  
106.37033 LONG DEG

TABLE 6

POSITIONS OF OMETERS	POSITIONS OF ACCELEROMETERS	REL. DIAPOHILIC STIMULUS STIMULUS
MULTIPLES OF G	ANGLE OF INCLINATION	PERCENT
0.78•0	3.080•0	10.3
0.54•0	4.773•0	6.7
3.50•0	4.032•1	6.4
5.10•4	5.274•2	3.9
7.00•0	1.6319.6	-2.9
5.57•2	1.0620.5	8.0
6.15•0	1.3786•0	-4.8
5.90•0	1.0715•0	-3.0
5.72•0	1.5576•0	17.0
5.55•2	1.6445•0	-24.9
5.33•0	1.7210•0	-6.2
5.10•6	1.9115•2	-11.0
4.90•0	2.4795•4	-26.0
4.62•0	2.6764•5	-32.3
4.35•0	2.9704•3	-46.7
3.60•0	3.1234•5	-40.9

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UNIVERSITY OF TORONTO

MILITARY SAMPLING

TABLE 7

STATION ALTITUDE 3,900.00 FEET MSL  
APR. 8, 1960 HRS ADT  
PRECIPITATION 0.00

WEATHER DATA  
WHITE SANDS  
TABLE 7 CON'T

GEODETIC COORDINATES  
32°40'04.3 LAT DEG  
106°37'03.2 LONG DEG

GEODETIC PRESSION	GEODETIC ALTITUDE	GEODETIC ALTITUDE	RELATIVE DENSITY	SPECIFIC CONDUCTANCE	WATER TEMPERATURE	WATER PRESSURE	INDEX OF REFRACTION
ATMOSPHERIC PRESSURE	ATMOSPHERIC PRESSURE	ATMOSPHERIC PRESSURE	PERCENT CHARTERAGE	SOUND SPEED	DEGREES CELSIUS	KILOPS	
23500.0	410.5	-23.0	-50.4	20.4	532.4	616.2	219.5
24000.0	409.6	-24.4	-46.5	20.7	573.8	614.5	217.4
24500.0	408.6	-25.7	-41.5	20.9	565.3	612.8	216.5
25000.0	399.5	-27.1	-42.0	21.2	556.6	611.1	215.4
25500.0	384.0	-28.5	-45.7	21.4	547.9	609.4	217.6
26000.0	376.3	-29.8	-46.8	21.6	539.4	607.7	209.1
26500.0	362.9	-31.2	-45.9	21.6	531.1	605.0	206.7
27000.0	361.1	-32.4	-46.9	21.9	522.6	604.4	211.9
27500.0	355.4	-33.2	-47.6	21.7	513.0	603.5	220.0
28000.0	342.8	-33.9	-48.4	21.4	503.6	602.6	223.2
28500.0	330.4	-34.7	-49.2	21.1	494.3	601.9	230.2
29000.0	331.1	-35.7	-50.1	18.5**	485.7	600.3	237.4
29500.0	322.8	-36.9	-50.2	14.4**	477.4	598.9	238.0
30000.0	310.8	-38.0	-57.9	10.2**	469.3	597.4	240.0
30500.0	309.9	-39.2	-62.0	6.1**	461.4	595.9	240.0
31000.0	305.1	-40.4	-71.7	1.9**	453.6	594.4	240.0

\*\* AIR LAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3900.00 FEET MSL  
29 APR. 01  
ASCENSIOIN 49. < 0900 HRS MDT

MANDATORY LEVELS  
1100020297  
WHITE SANDS  
TABLE 8

GEODETIC COORDINATES  
32.40043 LAT UEG  
106.37033 LONG UEG

PRESSURE MILLIBARS	GEOPOTENTIAL FLAT	TEMPERATURE			REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS
		AIR DEGREES	DEWPPOINT DEGREES	CENTIGRADE			
1012.0	4322.	18.5	6.4	45•	212.2	1.2	
1009.0	4323.	16.9	3.4	40•	150.7	1.7	
1006.0	4323.	12.7	-4	43•	115.9	0.7	
1003.0	10309.	6.3	-2.9	45•	114.3	9.6	
1000.0	12305.	3.6	-6.7	46•	69.9	6.8	
997.0	14416.	-2.1	-13.4	42•	182.0	3.7	
994.0	16666.	-6.4	-26.9	18•	209.0	14.2	
991.0	19002.	-11.0	-30.6	16•	214.0	21.4	
988.0	21711.	-18.1	-35.3	19•	217.7	22.4	
985.0	24554.	-26.0	-41.7	21•	214.0	27.5	
982.0	27673.	-33.5	-48.0	22•	223.4	27.9	
981.0	31172.	-40.9					

\* \* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION 101101 49511.37 EEL  
EAST. 01 1023 HRS JDT  
ASSEMBLED 48.

SIGNIFICANT LEVEL DATA  
JULY 01 0000  
17-37

AT 00.00 COORDINATES  
32.40175 LAT DEG  
106.31232 LONG DEG

TABLE 9

MILLIBARS	PRESSURE	REFRACTIVE INDEX	TEMPERATURE		RHUM. PERCENT
			AT 0000	AT 1200	
677.4	96.5	1.0000	24.4	7.5	34.0
686.6	94.0	1.0000	23.7	6.3	35.0
696.0	93.5	1.0000	20.5	6.1	39.0
705.4	92.3	1.0000	18.1	5.3	43.0
714.8	91.0	1.0000	16.3	4.6	37.0
724.2	90.0	1.0000	15.6	4.0	42.0
733.6	89.1	1.0000	15.0	3.7	46.0
743.0	88.4	1.0000	14.4	3.4	50.0
752.4	87.9	1.0000	13.9	3.1	54.0
761.8	87.4	1.0000	13.4	2.8	58.0
771.2	87.0	1.0000	12.9	2.5	62.0
780.6	86.6	1.0000	12.4	2.2	66.0
789.0	86.2	1.0000	11.9	1.9	70.0
798.4	85.9	1.0000	11.4	1.6	74.0
807.8	85.6	1.0000	10.9	1.3	78.0
817.2	85.3	1.0000	10.4	1.0	82.0
826.6	85.0	1.0000	9.9	0.7	86.0
836.0	84.7	1.0000	9.4	0.4	90.0
845.4	84.4	1.0000	8.9	0.1	94.0
854.8	84.1	1.0000	8.4	-0.2	98.0
864.2	83.8	1.0000	7.9	-0.5	102.0
873.6	83.5	1.0000	7.4	-0.8	106.0
883.0	83.2	1.0000	6.9	-1.1	110.0
892.4	82.9	1.0000	6.4	-1.4	114.0
901.8	82.6	1.0000	5.9	-1.7	118.0
911.2	82.3	1.0000	5.4	-2.0	122.0
920.6	82.0	1.0000	4.9	-2.3	126.0
929.0	81.7	1.0000	4.4	-2.6	130.0
938.4	81.4	1.0000	3.9	-2.9	134.0
947.8	81.1	1.0000	3.4	-3.2	138.0
957.2	80.8	1.0000	2.9	-3.5	142.0
966.6	80.5	1.0000	2.4	-3.8	146.0
976.0	80.2	1.0000	1.9	-4.1	150.0
985.4	79.9	1.0000	1.4	-4.4	154.0
994.8	79.6	1.0000	0.9	-4.7	158.0
1004.2	79.3	1.0000	0.4	-5.0	162.0
1013.6	79.0	1.0000	-0.1	-5.3	166.0
1023.0	78.7	1.0000	-0.6	-5.6	170.0
1032.4	78.4	1.0000	-1.1	-5.9	174.0
1041.8	78.1	1.0000	-1.6	-6.2	178.0
1051.2	77.8	1.0000	-2.1	-6.5	182.0
1060.6	77.5	1.0000	-2.6	-6.8	186.0
1069.0	77.2	1.0000	-3.1	-7.1	190.0
1078.4	76.9	1.0000	-3.6	-7.4	194.0
1087.8	76.6	1.0000	-4.1	-7.7	198.0
1097.2	76.3	1.0000	-4.6	-8.0	202.0
1106.6	76.0	1.0000	-5.1	-8.3	206.0
1116.0	75.7	1.0000	-5.6	-8.6	210.0
1125.4	75.4	1.0000	-6.1	-8.9	214.0
1134.8	75.1	1.0000	-6.6	-9.2	218.0
1144.2	74.8	1.0000	-7.1	-9.5	222.0
1153.6	74.5	1.0000	-7.6	-9.8	226.0
1163.0	74.2	1.0000	-8.1	-10.1	230.0
1172.4	73.9	1.0000	-8.6	-10.4	234.0
1181.8	73.6	1.0000	-9.1	-10.7	238.0
1191.2	73.3	1.0000	-9.6	-11.0	242.0
1200.6	73.0	1.0000	-10.1	-11.3	246.0
1209.0	72.7	1.0000	-10.6	-11.6	250.0
1218.4	72.4	1.0000	-11.1	-11.9	254.0
1227.8	72.1	1.0000	-11.6	-12.2	258.0
1237.2	71.8	1.0000	-12.1	-12.5	262.0
1246.6	71.5	1.0000	-12.6	-12.8	266.0
1256.0	71.2	1.0000	-13.1	-13.1	270.0
1265.4	70.9	1.0000	-13.6	-13.4	274.0
1274.8	70.6	1.0000	-14.1	-13.7	278.0
1284.2	70.3	1.0000	-14.6	-14.0	282.0
1293.6	70.0	1.0000	-15.1	-14.3	286.0
1303.0	69.7	1.0000	-15.6	-14.6	290.0
1312.4	69.4	1.0000	-16.1	-14.9	294.0
1321.8	69.1	1.0000	-16.6	-15.2	298.0
1331.2	68.8	1.0000	-17.1	-15.5	302.0
1340.6	68.5	1.0000	-17.6	-15.8	306.0
1349.0	68.2	1.0000	-18.1	-16.1	310.0
1358.4	67.9	1.0000	-18.6	-16.4	314.0
1367.8	67.6	1.0000	-19.1	-16.7	318.0
1377.2	67.3	1.0000	-19.6	-17.0	322.0
1386.6	67.0	1.0000	-20.1	-17.3	326.0
1396.0	66.7	1.0000	-20.6	-17.6	330.0
1405.4	66.4	1.0000	-21.1	-17.9	334.0
1414.8	66.1	1.0000	-21.6	-18.2	338.0
1424.2	65.8	1.0000	-22.1	-18.5	342.0
1433.6	65.5	1.0000	-22.6	-18.8	346.0
1443.0	65.2	1.0000	-23.1	-19.1	350.0
1452.4	64.9	1.0000	-23.6	-19.4	354.0
1461.8	64.6	1.0000	-24.1	-19.7	358.0
1471.2	64.3	1.0000	-24.6	-20.0	362.0
1480.6	64.0	1.0000	-25.1	-20.3	366.0
1489.0	63.7	1.0000	-25.6	-20.6	370.0
1498.4	63.4	1.0000	-26.1	-20.9	374.0
1507.8	63.1	1.0000	-26.6	-21.2	378.0
1517.2	62.8	1.0000	-27.1	-21.5	382.0
1526.6	62.5	1.0000	-27.6	-21.8	386.0
1536.0	62.2	1.0000	-28.1	-22.1	390.0
1545.4	61.9	1.0000	-28.6	-22.4	394.0
1554.8	61.6	1.0000	-29.1	-22.7	398.0
1564.2	61.3	1.0000	-29.6	-23.0	402.0
1573.6	61.0	1.0000	-30.1	-23.3	406.0
1583.0	60.7	1.0000	-30.6	-23.6	410.0
1592.4	60.4	1.0000	-31.1	-23.9	414.0
1601.8	60.1	1.0000	-31.6	-24.2	418.0
1611.2	59.8	1.0000	-32.1	-24.5	422.0
1620.6	59.5	1.0000	-32.6	-24.8	426.0
1629.0	59.2	1.0000	-33.1	-25.1	430.0
1638.4	58.9	1.0000	-33.6	-25.4	434.0
1647.8	58.6	1.0000	-34.1	-25.7	438.0
1657.2	58.3	1.0000	-34.6	-26.0	442.0
1666.6	58.0	1.0000	-35.1	-26.3	446.0
1676.0	57.7	1.0000	-35.6	-26.6	450.0
1685.4	57.4	1.0000	-36.1	-26.9	454.0
1694.8	57.1	1.0000	-36.6	-27.2	458.0
1704.2	56.8	1.0000	-37.1	-27.5	462.0
1713.6	56.5	1.0000	-37.6	-27.8	466.0
1723.0	56.2	1.0000	-38.1	-28.1	470.0
1732.4	55.9	1.0000	-38.6	-28.4	474.0
1741.8	55.6	1.0000	-39.1	-28.7	478.0
1751.2	55.3	1.0000	-39.6	-29.0	482.0
1760.6	55.0	1.0000	-40.1	-29.3	486.0
1769.0	54.7	1.0000	-40.6	-29.6	490.0
1778.4	54.4	1.0000	-41.1	-29.9	494.0
1787.8	54.1	1.0000	-41.6	-30.2	498.0
1797.2	53.8	1.0000	-42.1	-30.5	502.0
1806.6	53.5	1.0000	-42.6	-30.8	506.0
1815.0	53.2	1.0000	-43.1	-31.1	510.0
1824.4	52.9	1.0000	-43.6	-31.4	514.0
1833.8	52.6	1.0000	-44.1	-31.7	518.0
1843.2	52.3	1.0000	-44.6	-32.0	522.0
1852.6	52.0	1.0000	-45.1	-32.3	526.0
1862.0	51.7	1.0000	-45.6	-32.6	530.0
1871.4	51.4	1.0000	-46.1	-32.9	534.0
1880.8	51.1	1.0000	-46.6	-33.2	538.0
1889.2	50.8	1.0000	-47.1	-33.5	542.0
1898.6	50.5	1.0000	-47.6	-33.8	546.0
1908.0	50.2	1.0000	-48.1	-34.1	550.0
1917.4	49.9	1.0000	-48.6	-34.4	554.0
1926.8	49.6	1.0000	-49.1	-34.7	558.0
1936.2	49.3	1.0000	-49.6	-35.0	562.0
1945.6	49.0	1.0000	-50.1	-35.3	566.0
1955.0	48.7	1.0000	-50.6	-35.6	570.0
1964.4	48.4	1.0000	-51.1	-35.9	574.0
1973.8	48.1	1.0000	-51.6	-36.2	578.0
1983.2	47.8	1.0000	-52.1	-36.5	582.0
1992.6	47.5	1.0000	-52.6	-36.8	586.0
2002.0	47.2	1.0000	-53.1	-37.1	590.0
2011.4	46.9	1.0000	-53.6	-37.4	594.0
2020.8	46.6	1.0000	-54.1	-37.7	598.0
2030.2	46.3	1.0000	-54.6	-38.0	602.0
2039.6	46.0	1.0000	-55.1	-38.3	606.0
2049.0	45.7	1.0000	-55.6	-38.6	610.0
2058.4	45.4	1.0000	-56.1	-38.9	614.0
2067.8	45.1	1.0000	-56.6	-39.2	618.0
2077.2	44.8	1.0000	-57.1	-39.5	622.0
2086.6	44.5	1.0000	-57.6	-39.8	626.0
2096.0	44.2	1.0000	-58.1	-40.1	630.0
2105.4	43.9	1.0000	-58.6	-40.4	634.0
2114.8	43.6	1.0000	-59.1	-40.7	638.0
2124.2	43.3	1.0000	-59.6	-41.0	642.0
2133.6	43.0	1.0000	-60.1	-41.3	646.0
2143.0	42.7	1.0000	-60.6	-41.6	650.0
2152.4	42.4	1.0000	-61.1	-41.9	654.0
2161.8	42.1	1.0000	-61.6	-42.2	658.0
2171.2	41.8	1.0000	-62.1	-42.5	662.0
2180.6	41.5	1.0000	-62.6	-42.8	666.0
2189.0	41.2	1.0000	-63.1	-43.1	670.0
2198.4	40.9	1.0000	-63.6	-43.4	674.0
2207.8	40.6	1.0000	-64.1	-43.7	678.0
2217.2	40.3	1.0000	-64.6	-44.0	682.0
2226.6	40.0	1.0000	-65.1	-44.3	686.0
2236.0	39.7	1.0000	-65.6	-44.6	690.0
2245.4	39.4	1.0000	-66.1	-44.9	694.0
2254.8	39.1				

STATION ALITUDE 46° 11' 37" FLET 155  
28 APR. 1961 1023 HRS MOT  
ASSEMBLED.

UNIVERSITY OF TORONTO LIBRARIES  
118018001

TABLE 1C

STATION ALTIMETER 4651.37 FEET MSL  
P.M. 61 AM. 1023 HRS MDT  
ASCENSUS 10.

TABLE 10 CON'T

TABLE 10 CON'T

GEOMETRY	PRESSURE	TEMPERATURE	WATER	SOLIDITY	SPED OF	WIND DATA		INDIX
						PERCENT	G/CUBIC	
ALILOID	40.000	40.000	40.000	56.000	57.000	515.0	26.9	1.000129
ALILOID	45.000	40.000	40.000	56.000	56.000	513.5	26.1	1.000127
ALILOID	50.000	40.000	40.000	55.000	55.000	611.3	29.1	1.000125
ALILOID	55.000	40.000	40.000	54.7.4	54.7.4	610.0	204.0	1.000123
ALILOID	60.000	40.000	40.000	53.9.0	53.9.0	606.3	202.0	1.000121
ALILOID	65.000	40.000	40.000	53.0.7	53.0.7	606.5	203.0	1.000119
ALILOID	70.000	40.000	40.000	52.2.6	52.2.6	604.7	203.0	1.000117
ALILOID	75.000	40.000	40.000	51.3.5	51.3.5	605.7	212.6	1.000115
ALILOID	80.000	40.000	40.000	50.2.6	50.2.6	603.5	221.0	1.000112
ALILOID	85.000	40.000	40.000	49.3.5	49.3.5	602.5	220.3	1.000110
ALILOID	90.000	40.000	40.000	48.5.7	48.5.7	600.8	220.9	1.000108
ALILOID	95.000	40.000	40.000	47.8.6	47.8.6	598.6	220.1	1.000107
ALILOID	100.000	40.000	40.000	46.9.9	46.9.9	596.2	219.2	1.000104
ALILOID	105.000	40.000	40.000	46.0.5	46.0.5	597.1	219.5	1.000103
ALILOID	110.000	40.000	40.000	45.2.2	45.2.2	595.6	219.2	1.000101
ALILOID	115.000	40.000	40.000	44.3.9	44.3.9	593.5	219.5	1.000100
ALILOID	120.000	40.000	40.000	43.5.6	43.5.6	591.4	219.2	1.000100
ALILOID	125.000	40.000	40.000	42.7.3	42.7.3	589.3	219.5	1.000100
ALILOID	130.000	40.000	40.000	41.9.0	41.9.0	587.2	219.2	1.000100
ALILOID	135.000	40.000	40.000	41.0.7	41.0.7	585.1	219.5	1.000100
ALILOID	140.000	40.000	40.000	40.2.4	40.2.4	583.0	219.2	1.000100
ALILOID	145.000	40.000	40.000	39.3.7	39.3.7	580.9	219.5	1.000100
ALILOID	150.000	40.000	40.000	38.5.4	38.5.4	578.8	219.2	1.000100
ALILOID	155.000	40.000	40.000	37.6.7	37.6.7	576.7	219.5	1.000100
ALILOID	160.000	40.000	40.000	36.8.0	36.8.0	574.6	219.2	1.000100
ALILOID	165.000	40.000	40.000	35.9.3	35.9.3	572.5	219.5	1.000100
ALILOID	170.000	40.000	40.000	35.0.6	35.0.6	570.4	219.2	1.000100
ALILOID	175.000	40.000	40.000	34.1.9	34.1.9	568.3	219.5	1.000100
ALILOID	180.000	40.000	40.000	33.3.2	33.3.2	566.2	219.2	1.000100
ALILOID	185.000	40.000	40.000	32.4.5	32.4.5	564.1	219.5	1.000100
ALILOID	190.000	40.000	40.000	31.5.8	31.5.8	562.0	219.2	1.000100
ALILOID	195.000	40.000	40.000	30.7.1	30.7.1	559.9	219.5	1.000100
ALILOID	200.000	40.000	40.000	29.8.4	29.8.4	557.8	219.2	1.000100
ALILOID	205.000	40.000	40.000	28.9.7	28.9.7	555.7	219.5	1.000100
ALILOID	210.000	40.000	40.000	28.1.0	28.1.0	553.6	219.2	1.000100
ALILOID	215.000	40.000	40.000	27.2.3	27.2.3	551.5	219.5	1.000100
ALILOID	220.000	40.000	40.000	26.3.6	26.3.6	549.4	219.2	1.000100
ALILOID	225.000	40.000	40.000	25.4.9	25.4.9	547.3	219.5	1.000100
ALILOID	230.000	40.000	40.000	24.6.2	24.6.2	545.2	219.2	1.000100
ALILOID	235.000	40.000	40.000	23.7.5	23.7.5	543.1	219.5	1.000100
ALILOID	240.000	40.000	40.000	22.8.8	22.8.8	541.0	219.2	1.000100
ALILOID	245.000	40.000	40.000	22.0.1	22.0.1	538.9	219.5	1.000100
ALILOID	250.000	40.000	40.000	21.1.4	21.1.4	536.8	219.2	1.000100
ALILOID	255.000	40.000	40.000	20.2.7	20.2.7	534.7	219.5	1.000100
ALILOID	260.000	40.000	40.000	19.4.0	19.4.0	532.6	219.2	1.000100
ALILOID	265.000	40.000	40.000	18.5.3	18.5.3	530.5	219.5	1.000100
ALILOID	270.000	40.000	40.000	17.6.6	17.6.6	528.4	219.2	1.000100
ALILOID	275.000	40.000	40.000	16.7.9	16.7.9	526.3	219.5	1.000100
ALILOID	280.000	40.000	40.000	15.9.2	15.9.2	524.2	219.2	1.000100
ALILOID	285.000	40.000	40.000	15.0.5	15.0.5	522.1	219.5	1.000100
ALILOID	290.000	40.000	40.000	14.1.8	14.1.8	520.0	219.2	1.000100
ALILOID	295.000	40.000	40.000	13.3.1	13.3.1	517.9	219.5	1.000100
ALILOID	300.000	40.000	40.000	12.4.4	12.4.4	515.8	219.2	1.000100
ALILOID	305.000	40.000	40.000	11.5.7	11.5.7	513.7	219.5	1.000100
ALILOID	310.000	40.000	40.000	10.7.0	10.7.0	511.6	219.2	1.000100
ALILOID	315.000	40.000	40.000	9.8.3	9.8.3	509.5	219.5	1.000100
ALILOID	320.000	40.000	40.000	8.9.6	8.9.6	507.4	219.2	1.000100
ALILOID	325.000	40.000	40.000	8.0.9	8.0.9	505.3	219.5	1.000100
ALILOID	330.000	40.000	40.000	7.2.2	7.2.2	503.2	219.2	1.000100
ALILOID	335.000	40.000	40.000	6.3.5	6.3.5	501.1	219.5	1.000100
ALILOID	340.000	40.000	40.000	5.4.8	5.4.8	499.0	219.2	1.000100
ALILOID	345.000	40.000	40.000	4.6.1	4.6.1	496.9	219.5	1.000100
ALILOID	350.000	40.000	40.000	3.7.4	3.7.4	494.8	219.2	1.000100
ALILOID	355.000	40.000	40.000	2.8.7	2.8.7	492.7	219.5	1.000100
ALILOID	360.000	40.000	40.000	2.0.0	2.0.0	490.6	219.2	1.000100
ALILOID	365.000	40.000	40.000	1.1.3	1.1.3	488.5	219.5	1.000100
ALILOID	370.000	40.000	40.000	0.2.6	0.2.6	486.4	219.2	1.000100
ALILOID	375.000	40.000	40.000	-0.9.7	-0.9.7	484.3	219.5	1.000100
ALILOID	380.000	40.000	40.000	-1.8.4	-1.8.4	482.2	219.2	1.000100
ALILOID	385.000	40.000	40.000	-2.7.1	-2.7.1	480.1	219.5	1.000100
ALILOID	390.000	40.000	40.000	-3.5.8	-3.5.8	477.9	219.2	1.000100
ALILOID	395.000	40.000	40.000	-4.4.5	-4.4.5	475.8	219.5	1.000100
ALILOID	400.000	40.000	40.000	-5.3.2	-5.3.2	473.7	219.2	1.000100
ALILOID	405.000	40.000	40.000	-6.1.9	-6.1.9	471.6	219.5	1.000100
ALILOID	410.000	40.000	40.000	-7.0.6	-7.0.6	469.5	219.2	1.000100
ALILOID	415.000	40.000	40.000	-7.9.3	-7.9.3	467.4	219.5	1.000100
ALILOID	420.000	40.000	40.000	-8.8.0	-8.8.0	465.3	219.2	1.000100
ALILOID	425.000	40.000	40.000	-9.6.7	-9.6.7	463.2	219.5	1.000100
ALILOID	430.000	40.000	40.000	-10.5.4	-10.5.4	461.1	219.2	1.000100
ALILOID	435.000	40.000	40.000	-11.4.1	-11.4.1	459.0	219.5	1.000100
ALILOID	440.000	40.000	40.000	-12.2.8	-12.2.8	456.9	219.2	1.000100
ALILOID	445.000	40.000	40.000	-13.1.5	-13.1.5	454.8	219.5	1.000100
ALILOID	450.000	40.000	40.000	-14.0.2	-14.0.2	452.7	219.2	1.000100
ALILOID	455.000	40.000	40.000	-14.8.9	-14.8.9	450.6	219.5	1.000100
ALILOID	460.000	40.000	40.000	-15.7.6	-15.7.6	448.5	219.2	1.000100
ALILOID	465.000	40.000	40.000	-16.6.3	-16.6.3	446.4	219.5	1.000100
ALILOID	470.000	40.000	40.000	-17.5.0	-17.5.0	444.3	219.2	1.000100
ALILOID	475.000	40.000	40.000	-18.3.7	-18.3.7	442.2	219.5	1.000100
ALILOID	480.000	40.000	40.000	-19.2.4	-19.2.4	440.1	219.2	1.000100
ALILOID	485.000	40.000	40.000	-20.1.1	-20.1.1	437.9	219.5	1.000100
ALILOID	490.000	40.000	40.000	-20.9.8	-20.9.8	435.8	219.2	1.000100
ALILOID	495.000	40.000	40.000	-21.8.5	-21.8.5	433.7	219.5	1.000100
ALILOID	500.000	40.000	40.000	-22.7.2	-22.7.2	431.6	219.2	1.000100
ALILOID	505.000	40.000	40.000	-23.5.9	-23.5.9	429.5	219.5	1.000100
ALILOID	510.000	40.000	40.000	-24.4.6	-24.4.6	427.4	219.2	1.000100
ALILOID	515.000	40.000	40.000	-25.3.3	-25.3.3	425.3	219.5	1.000100
ALILOID	520.000	40.000	40.000	-26.2.0	-26.2.0	423.2	219.2	1.000100
ALILOID	525.000	40.000	40.000	-27.0.7	-27.0.7	421.1	219.5	1.000100
ALILOID	530.000	40.000	40.000	-27.9.4	-27.9.4	419.0	219.2	1.000100
ALILOID	535.000	40.000	40.000	-28.8.1	-28.8.1	416.9	219.5	1.000100
ALILOID	540.000	40.000	40.000	-29.6.8	-29.6.8	414.8	219.2	1.000100
ALILOID	545.000	40.000	40.000	-30.5.5	-30.5.5	412.7	219.5	1.000100
ALILOID	550.000	40.000	40.000	-31.4.2	-31.4.2	410.6	219.2	1.000100
ALILOID	555.000	40.000	40.000	-32.2.9	-32.2.9	408.5	219.5	1.000100
ALILOID	560.000	40.000	40.000	-33.1.6	-33.1.6	406.4	219.2	1.000100
ALILOID	565.000	40.000	40.000	-33.9.3	-33.9.3	404.3	219.5	1.000100
ALILOID	570.000	40.000	40.000	-34.8.0	-34.8.0	402.2	219.2	1.000100
ALILOID	575.000	40.000	40.000	-35.6.7	-35.6.7	400.1	219.5	1.000100
ALILOID	580.000	40.000	40.000	-36.5.4	-36.5.4	397.9	219.2	1.000100
ALILOID	585.000	40.000	40.000	-37.4.1	-37.4.1	395.8	219.5	1.000100
ALILOID	590.000	40.000	40.000	-38.2.8	-38.2.8	393.7	219.2	1.000100
ALILOID	595.000	40.000	40.000	-39.1.5	-39.1.5	391.6	219.5	1.000100
ALILOID	600.000	40.000	40.000	-40.0.2	-40.0.2	389.5	219.2	1.000100
ALILOID	605.000	40.000	40.000	-40.8.9	-40.8.9	387.4	219.5	1.000100
ALILOID	610.000	40.000	40.000	-41.7.6	-41.7.6	385.3	219.2	1.000100
ALILOID	615.000	40.000	40.000	-42.6.3	-42.6.3	383.2	219.5	1.000100
ALILOID	620.000	40.000	40.000					

\* \* \* AT LEAST ONE ASSUMPTION RELATIVE TO THE INTERPOLATION.

MISSION NUMBER 9901-77 FET MSL  
CIA APR. 11  
ASCENSION I.O. 31023 HRS MDT

MANDATORY LEVELS  
116016005  
L.C-37  
TABLE 11

REF ID	DEPTURE TIME	REF ALTITUDE	RLL PHT.	SWD DATA
POSITION	TIME	ALP	DIR. SIGHT	DIRECTION
POSITION	TIME	BLGHTS CRYSTAL	PERCENT	WEIGHTS (IN)
150.0	0000Z	20.0	6.1	39.7
160.0	0000Z	16.0	1.0	37.7
170.0	0000Z	11.0	-1.0	26.0
180.0	0000Z	16.0	-1.0	140.0
190.0	0000Z	9.0	-9.0	120.0
200.0	0000Z	3.0	-10.0	101.2
210.0	0000Z	-2.0	-18.0	176.7
220.0	0000Z	-5.0	-26.4	190.9
230.0	0000Z	-11.0	-31.2	195.5
240.0	0000Z	-17.0	-35.8	17.7
250.0	0000Z	-24.5	-41.0	209.2
260.0	0000Z	-25.5	-41.0	20b.9
270.0	0000Z	-33.1	-48.3	217.0
280.0	0000Z	-39.0	-48.3	24.6
290.0	0000Z	-31207.	-31207.	

DECODIC COORDINATES  
32.40175 LAT LEG  
106.31232 LONG LEG

GEODLIC COORDINATES  
32°40'03" LAT DEC  
116°37'33" LONG MER

12

PERCENT CHARGE	PERCENT EFFICIENCY	PERCENT EXPLANATION	PERCENT RELIABILITY
0.00	0.0	0.0	0.0
1.00	1.0	1.0	1.0
2.00	2.0	2.0	2.0
3.00	3.0	3.0	3.0
4.00	4.0	4.0	4.0
5.00	5.0	5.0	5.0
6.00	6.0	6.0	6.0
7.00	7.0	7.0	7.0
8.00	8.0	8.0	8.0
9.00	9.0	9.0	9.0
10.00	10.0	10.0	10.0
11.00	11.0	11.0	11.0
12.00	12.0	12.0	12.0
13.00	13.0	13.0	13.0
14.00	14.0	14.0	14.0
15.00	15.0	15.0	15.0
16.00	16.0	16.0	16.0
17.00	17.0	17.0	17.0
18.00	18.0	18.0	18.0
19.00	19.0	19.0	19.0
20.00	20.0	20.0	20.0
21.00	21.0	21.0	21.0
22.00	22.0	22.0	22.0
23.00	23.0	23.0	23.0
24.00	24.0	24.0	24.0
25.00	25.0	25.0	25.0
26.00	26.0	26.0	26.0
27.00	27.0	27.0	27.0
28.00	28.0	28.0	28.0
29.00	29.0	29.0	29.0
30.00	30.0	30.0	30.0
31.00	31.0	31.0	31.0
32.00	32.0	32.0	32.0
33.00	33.0	33.0	33.0
34.00	34.0	34.0	34.0
35.00	35.0	35.0	35.0
36.00	36.0	36.0	36.0

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CHICAGO METROPOLITAN AREA  
1100 HRS MDT  
PREDICTION NO. 2

TABLE 13  
WEATHER ANALYSIS DATA  
113000Z SEPTEMBER 1958  
WHITE SATELLITE

GEOPHYSICAL COORDINATES  
32°40'04.5 LAT N  
106°37'33 LONG E

GEOPHYSICAL COORDINATES  
32°40'04.5 LAT E  
106°37'33 LONG E

GEOPHYSICAL ALTITUDE IN MI	PRESSURE IN MILLIBARS	TEMPERATURE AT 1000 FT. SL	DEW POINT DIFFERENCE FROM GROVE CITY STATION	RELATIVE HUMIDITY PERCENT	DENSITY METERS	SPEED OF SOUND KNOTS	DIRECTION OF WIND DEGREES TRUE	WIND DATA SPEED KNOTS	WIND DIRECTION OF RELAXATION
3900.0	1070.0	250.0	-7.0	70.0	1022.0	674.3	69.0	4.1	1.000276
4000.0	1070.7	250.0	-6.3	75.0	1021.8	674.3	79.8	4.1	1.000276
4100.0	1062.4	250.0	-5.5	78.1	1011.3	671.9	68.0	3.3	1.000263
4200.0	1042.5	210.0	-4.5	86.3	1000.7	669.5	51.4	2.7	1.000263
4300.0	1030.5	190.3	-3.1	91.2	988.6	667.6	27.9	2.4	1.000259
4400.0	1010.9	17.7	-2.1	92.1	977.1	665.7	30.0	2.6	1.000256
4500.0	994.5	16.0	-1.6	94.9	965.6	665.7	540.3	3.1	1.000252
4600.0	970.2	15.4	-1.9	97.9	956.7	662.9	537.5	2.2	1.000244
4700.0	950.2	14.5	-0.7	98.5	937.0	661.8	29.3	1.4	1.000238
4800.0	930.1	13.4	-0.2	99.4	923.9	660.4	120.1	2.1	1.000234
4900.0	914.5	12.2	-0.9	40.0	911.0	659.1	130.0	4.6	1.000230
5000.0	900.0	11.1	-1.8	40.5	898.6	657.8	135.0	6.6	1.000225
5100.0	874.7	10.5	-4.4	34.7	884.4	650.9	132.0	8.3	1.000218
5200.0	850.6	9.8	-7.4	28.9	870.7	650.0	124.0	8.7	1.000211
5300.0	825.7	9.2	-10.0	25.0	857.8	654.8	116.7	9.0	1.000205
5400.0	808.7	7.6	-17.2	25.0	840.0	653.2	110.7	8.7	1.000201
5500.0	787.5	6.2	-12.3	25.0	834.5	651.6	104.9	8.3	1.000197
5600.0	757.6	4.8	-13.5	25.0	823.1	649.9	99.2	7.6	1.000194
5700.0	726.6	3.5	-16.7	25.0	811.9	648.3	90.2	6.8	1.000191
5800.0	695.3	2.1	-15.9	25.0	800.6	646.6	90.2	5.9	1.000187
5900.0	652.1	0.7	-17.0	25.0	789.9	645.9	119.0	4.6	1.000184
6000.0	611.2	-7.7	-16.2	25.0	779.2	643.3	101.0	5.1	1.000181
6100.0	569.6	-2.1	-14.4	25.0	763.7	641.7	108.9	8.9	1.000178
6200.0	545.5	-5.4	-16.7	25.0	757.9	640.2	201.1	11.9	1.000175
6300.0	515.3	2.1	-15.9	21.6	740.6	639.3	199.8	15.2	1.000171
6400.0	482.1	-4.1	-22.6	22.0	733.3	638.4	199.7	17.7	1.000168
6500.0	450.2	-19.8	-24.6	19.5	721.3	637.5	201.0	16.3	1.000164
6600.0	419.4	-19.5	-26.6	17.0	710.1	636.2	203.3	18.1	1.000162
6700.0	394.6	-6.6	-27.5	17.0	699.0	635.0	205.0	17.3	1.000159
6800.0	359.5	-5.5	-20.7	21.6	680.1	633.8	202.0	16.9	1.000156
6900.0	325.2	-4.1	-22.6	17.0	677.5	632.0	197.8	16.6	1.000154
7000.0	296.2	-19.8	-24.6	19.5	666.0	631.3	195.9	17.1	1.000151
7100.0	264.5	-19.5	-26.6	17.0	656.6	629.0	194.4	17.7	1.000149
7200.0	232.4	-19.6	-29.2	17.0	647.9	628.2	195.9	16.6	1.000146
7300.0	191.0	-30.6	-30.0	17.0	637.4	626.0	197.4	19.4	1.000144
7400.0	150.7	-19.6	-36.9	17.0	628.0	625.0	196.9	19.4	1.000142
7500.0	115.7	-45.0	-31.9	17.1	618.7	623.4	200.0	20.1	1.000139
7600.0	79.7	-11.9	-31.9	17.0	609.5	621.7	201.0	21.1	1.000137
7700.0	45.5	-13.2	-32.3	17.3	600.5	620.0	202.0	22.1	1.000135
7800.0	42.6	-20.0	-32.0	18.2	591.6	618.2	203.2	23.1	1.000133

TABLE 13. CONT'D

At least one negative test result value was used in this calculation.

1100 NRS EDT  
1100 NRS EDT  
1100 NRS EDT

TABLE 14  
INTERPOLATION OF WINDS

at 0900 UTC 20 JUN 1965  
32° 40' N 100° 37' E  
100.37182 100.006

INTERPOLATION	TIME	WIND DIRECTION	WIND VELOCITY	WIND DIRECTION	TIME	WIND DIRECTION	WIND VELOCITY
INTERPOLATION	TIME	WIND DIRECTION	WIND VELOCITY	INTERPOLATION	TIME	WIND DIRECTION	WIND VELOCITY
0900.0	0900.0	21.	6.5	30.	0900.0	330.	6.7
0900.5	0901.0	15.0	3.0	45.	0900.9	6.0	6.0
0901.0	0901.5	12.0	3.0	40.	0901.7	4.4	4.4
0901.5	0902.0	9.0	3.0	35.	0902.7	4.1	4.1
0902.0	0902.5	4.0	2.0	20.	0904.1	7.1	7.1
0902.5	0903.0	14.0	2.0	19.0	0904.1	9.0	9.0
0903.0	0903.5	16.0	2.0	19.0	0904.7	16.0	16.0
0903.5	0904.0	19.0	2.0	27.0	0905.3	10.5	10.5
0904.0	0904.5	21.0	2.0	31.0	0905.3	17.3	17.3
0904.5	0905.0	21.7	2.0	36.0	0905.4	20.0	20.0
0905.0	0905.5	26.0	2.0	42.0	0905.4	20.4	20.4
0905.5	0906.0	27.0	2.0	48.0	0905.7	27.5	27.5
0906.0	0906.5	31.0	2.0	50.0	0906.2	30.0	30.0